

Message

From: Craig Bias [cbias@remwerks.com]
Sent: 4/30/2021 1:30:33 PM
To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) [derek.j.robinson1@navy.mil]; Praskins, Wayne [Praskins.Wayne@epa.gov]
CC: Hays, David C Jr CIV USARMY CENWK (USA [David.C.Hays@usace.army.mil]; Liscio, Matthew P CIV USN NAVSEA DET RASO VA (USA) [matthew.liscio@navy.mil]
Subject: RE: HPNS Navy RESARD BUILD Results

Wayne, I don't see where ingestion dose is proportional to the room size. The activity in the source, Q, is affected by room area but it gets to be a long discussion of each individual factor and pathway. The ingestion rate we calculated assumes the resident consumes the entire source (at the RG) in 26 years so the area from which they ingest it is irrelevant unless we start allowing other source losses like airflow and dissipation.

Derek, you are correct. As noted in the Inputs tab of the spreadsheet, 12x12 came from EFH Table 19-12 for residences. That is conservative because few of the buildings have rooms. Residential exposure would at most likely be from two existing walls (a corner) only and the other two walls would be new construction to make a room.

From: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>
Sent: Thursday, April 29, 2021 5:36 PM
To: Praskins, Wayne <Praskins.Wayne@epa.gov>
Cc: Hays, David C Jr CIV USARMY CENWK (USA <David.C.Hays@usace.army.mil>; Liscio, Matthew P CIV USN NAVSEA DET RASO VA (USA) <matthew.liscio@navy.mil>; Craig Bias <cbias@remwerks.com>
Subject: RE: HPNS Navy RESARD BUILD Results

Craig or Matt can correct me if I am wrong, but I believe that the room size was selected from the room sizes suggested in the EFH.

From: Praskins, Wayne <Praskins.Wayne@epa.gov>
Sent: Thursday, April 29, 2021 3:28 PM
To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>
Cc: Hays, David C Jr CIV USARMY CENWK (USA <David.C.Hays@usace.army.mil>; Liscio, Matthew P CIV USN NAVSEA DET RASO VA (USA) <matthew.liscio@navy.mil>; Craig Bias <cbias@remwerks.com>
Subject: [Non-DoD Source] RE: HPNS Navy RESARD BUILD Results

I see in Equation E.2 that dose (and risk) via the ingestion pathway is proportional to contaminated area. What is the rationale for assuming a 12' 12' room if larger room/building sizes increase the estimated dose and risk?

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San Francisco, CA 94105
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From: Craig Bias <cbias@remwerks.com>
Sent: Thursday, April 29, 2021 10:00 AM
To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>; Praskins, Wayne <Praskins.Wayne@epa.gov>
Cc: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>; Liscio, Matthew P CIV SEA 04, NAVSEA

DET RASO <matthew.liscio@navy.mil>

Subject: RE: HPNS Navy RESARD BUILD Results

Sorry, I mistyped 17.7 pCi Co below... I meant 9.61E+06... compared to the calculated unit intake activity of 5.43E+05 in Column M.

From: Craig Bias

Sent: Thursday, April 29, 2021 11:44 AM

To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>; Praskins, Wayne <Praskins.Wayne@epa.gov>

Cc: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>; Liscio, Matthew P CIV SEA 04, NAVSEA DET RASO <matthew.liscio@navy.mil>

Subject: RE: HPNS Navy RESARD BUILD Results

Here is an input file for Co-60 to check our DCFs.

For clarification on a couple things today regarding Equation E.2 in BUILD manual.

- D(t) is not an instantaneous direction ingestion dose, but rather an integrated dose over the 26 years.
- Q(t) is basically the total source activity and is 100% fixed. That is the input activity concentration (2.25E+05 pCi/m² for Co-60) times the total contaminated area (~43 m²) or ~17.7 pCi for Co-60.
- Since the ingestion DCF and SF are dose per unit intake, we need to redefine the quantity in Column M (estimated activity, pCi). That is the calculated unit intake (pCi) and quantitatively is (24 ED Fin Fi) ERI fr Q(t) in Eqn E.2. It is not just Q(t).
- Similarly, since the external DCF and SF are dose per unit time-integrated activity concentration, we need to redefine the quantity in Column W (estimated activity concentration, pCi/m²). That is the calculated unit time-integrated activity concentration (1/yr/pCi/m²) if we use the surface DCFs. RESRAD is actually assuming the source term is a volume source that is 0.01 cm thick and uses Eqn F.1 and the volume DCFs. To calculate W, I guess we could divide the external dose by the volume DCFs to get the unit time-integrated activity concentration (1/yr/pCi/g) and then multiply by the soil volume SFs, but it should be a similar result.

Craig

From: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>

Sent: Thursday, April 29, 2021 11:11 AM

To: Praskins, Wayne <Praskins.Wayne@epa.gov>

Cc: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>; Craig Bias <cbias@remwerks.com>

Subject: RE: HPNS Navy RESARD BUILD Results

Yes, please do. I encourage the information exchange.

I included Craig on this response, so that he knows to expect your call.

Derek

From: Praskins, Wayne <Praskins.Wayne@epa.gov>

Sent: Thursday, April 29, 2021 8:41 AM

To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>

Cc: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>

Subject: [Non-DoD Source] RE: HPNS Navy RESARD BUILD Results

Derek –

Thanks for setting up this morning's call. To keep things moving, is it OK for Dave to call Craig Bias if he has additional questions?

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From: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>
Sent: Tuesday, April 27, 2021 12:49 PM
To: Praskins, Wayne <Praskins.Wayne@epa.gov>
Cc: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Subject: RE: HPNS Navy RESARD BUILD Results

Thanks Wayne and Dave! I sent the follow-up meeting request and will let you know.

From: Praskins, Wayne <Praskins.Wayne@epa.gov>
Sent: Tuesday, April 27, 2021 12:05 PM
To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>
Cc: Hays, David C Jr CIV USARMY CENWK (USA) <David.C.Hays@usace.army.mil>
Subject: [Non-DoD Source] HPNS Navy RESARD BUILD Results

Derek –

Dave Hays and I had a chance to talk about last week's Navy building RG submittal this morning. Dave has a question or two he would like to ask and should be able to join us this Thursday; I just forwarded your invite.

I don't expect we'll be able to have a detailed discussion on Thursday and would like to schedule a followup call for next week. Dave is in training Monday thru mid-day Thursday; is your group available for a followup call Thursday, 5/6 between noon and 2 PDT? I'm copying Dave on this email.

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